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09/533,778	03/24/2000	Akira Teraoka	2000 0311A	2449

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Wenderoth Lind & Ponack LLP  
2033 K Street NW  
Suite 800  
Washington, DC 20006

EXAMINER

HOBDEN, PAMELA R

ART UNIT	PAPER NUMBER
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2882

DATE MAILED: 02/27/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/533,778

Applicant(s)

TERAOKA, AKIRA

Examiner

Pamela R. Hobden

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 24 March 2000.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☒ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. The drawings are objected to because figure 3a and 3b are relatively illegible. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

### ***Specification***

3. A substitute specification in proper idiomatic English and in compliance with 37 CFR 1.52(a) and (b) is required. The substitute specification filed must be accompanied by a statement that it contains no new matter.
- 4.

### ***Claim Rejections - 35 USC § 112***

5. Claims 1-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.

***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Rooks. Rooks discloses an x-ray source, and detecting means facing each other with the sample between (figure 6b), making an x-ray incidence plane in the x-ray detecting means parallel to the section, and swinging the x-ray detecting means about a straight line on the same plane with the section as the central axis with the parallel relationship between the x-ray incidence plane and the section maintained, (figure 6a), rotating the x-ray source about the straight line on the same plane with the section as the axis of rotation is synchronized with the x-ray detection means (figure 6b), and detecting x-rays passing through the sample in the x-ray detection means (figure 6b), wherein the sample to be x-rayed is any section vertical to the platform on which the sample is placed, (Column 4 lines 25-57), and wherein the sample is a section out of the vertical to a stage on which the sample is placed (column 4 lines 25-57), the x-ray incidence plane is arranged to be parallel to a prescribed straight line (figure 6B), it has swinging means about the straight line, wherein the source and detector face in the same direction (figure 6a), and has a rotating means to rotate the source about the straight

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line as the axis of rotation is in synchronization with the x-ray detection means (figure 6B), the straight line to be the central axis and the axis of rotation is set to be vertical to a stage on which the sample is placed, (figure 6b), it comprises a sliding mechanism whereby the x-ray detection means is slid in a direction vertical to the x-ray incidence plane (figure 6a), it has a stage transfer means for two dimensionally transferring a stage on which the sample is placed (figure 6a), a second rotating means for the x-ray source around a straight line (column 4 lines 25-57), has a plurality of detectors, (figure 6b), and the incidence planes are arranged in such a position so as to be able to form a uniform geometric relationship with the rotating x-ray source on the basis of a prescribed plane including the straight line (figure 6B).

9. Claims 1,2,4-6,8-10,12-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Teraoka (JP 10-239253). Teraoka discloses an x-ray source(1), and detecting means (2) facing each other with the sample between (figure 1), making an x-ray incidence plane in the x-ray detecting means parallel to the section, and swinging the x-ray detecting means about a straight line on the same plane with the section as the central axis with the parallel relationship between the x-ray incidence plane and the section maintained, (figure 1), rotating the x-ray source about the straight line on the same plane with the section as the axis of rotation is synchronized with the x-ray detection means, and detecting x-rays passing through the sample in the x-ray detection means (figure 1), wherein the sample to be x-rayed is any section vertical to the platform on which the sample is placed, (figure 1), the x-ray incidence plane is arranged to be parallel to a prescribed straight line (figure 1), it has swinging means

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about the straight line, wherein the source and detector face in the same direction (figure 2), and has a rotating means to rotate the source about the straight line as the axis of rotation is in synchronization with the x-ray detection means (figure 2), the straight line to be the central axis and the axis of rotation is set to be vertical to a stage on which the sample is placed, (figure 2), it comprises a sliding mechanism whereby the x-ray detection means is slid in a direction vertical to the x-ray incidence plane (figure 2), it has a stage transfer means for two dimensionally transferring a stage on which the sample is placed (figure 2), a second rotating means for the x-ray source around a straight line (figure 2), and the incidence planes are arranged in such a position so as to be able to form a uniform geometric relationship with the rotating x-ray source on the basis of a prescribed plane including the straight line (figure 1).

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Teraoka (JP 2000-275,191) is the English translation of the Japanese priority document, Holliday et al (US 6,043,876) discloses a method and apparatus for detection a solder bridge in a ball grid array in a plane, Bartulovic (US 6,177,682) discloses an inspection of BGA's, and Sirat et al discloses another BGA inspection device.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Pamela R. Hobden whose telephone number is (703)-306-5435. The examiner can normally be reached on Monday-Friday 8:30-5:00.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Kim can be reached on (703)-305-3492. The fax phone numbers for the organization where this application or proceeding is assigned are (703)-308-7382 for regular communications and (703)-308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)-308-0956.

prh  
February 25, 2002



David P. Porta  
Primary Examiner